



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

GUAM AND ITS PEOPLE

By W. E. SAFFORD

The Marianne islands, or Ladrones, form a chain about four hundred miles long in a north-and-south direction and lying about four days' run by steamer to the eastward of the Philippines. More definitely speaking, they extend from $13^{\circ} 14'$ to $20^{\circ} 30'$ north latitude and lie between $142^{\circ} 31'$ and $143^{\circ} 46'$ east longitude. They are of volcanic origin and are surrounded by coral reefs. In the northern islands there are a number of volcanoes in full activity, but in the south volcanic action had ceased long before their discovery.

Guam, the largest and most important member of the group, is the only island belonging to the United States, the remainder having been sold by Spain to Germany after the close of the late war. It is at the extreme south of the chain and at present has a population of 9676.¹ The island is of irregular shape and is about 29 miles long from N. N. E. to S. S. W. At its narrowest part, near the middle, it is less than 4 miles across; near the ends the breadth is from 7 to 9 miles.

The northern portion of the island consists of a mesa, or plateau, an ancient coral reef, elevated about 150 feet above the sea-level, with one or two peaks of no great height extending through it. It is without streams or springs, owing to the porous nature of the coral, except in the immediate vicinity of the peaks referred to, where in the wet season there is for a time a supply of water. Near the middle of the island, in the immediate vicinity

¹ This number refers to the actual residents of the island and does not include visitors nor the United States forces stationed there. The figures are taken from the census of 1901, and were kindly communicated to me by Don Pedro Duarte, late Captain in the Spanish army, now a resident of the island.

of Agaña, the capital, there is a large spring from which a copious supply of water issues. This, after slowly oozing through an extensive swamp,—an ancient lagoon,—finds its way into the sea by means of a river, the channel of which has been artificially lengthened and turned for a mile parallel to the coast, for the convenience of the natives. The southern portion of the island is principally of volcanic formation. Few of the peaks exceed a thousand feet in height. It contains a number of streams, some of which lose themselves beneath the surface for a time and reappear issuing from caverns. As in most calcareous formations, funnel-shaped sink-holes are of frequent occurrence, the water draining into them sometimes reappearing near the beach in the form of springs, or spurting forth in places from beneath the sea.

Soil.—Near the junction of the volcanic and coral formations the limestone presents a crystalline structure, pure crystals of carbonate of lime being frequently found; and nodules of flint similar to those from European chalk formations are met in certain localities. The soil of the greater part of the island is thin and red. It owes its color to the oxide of iron present in the disintegrated coral of which it is principally composed. In the valleys and forests there is an accumulation of vegetable mold, and in swampy places the soil is black, rich, and suitable for the cultivation of rice.

Climate.—Guam is situated on the dividing line between the northeast trade-winds and the area of the monsoons of the China sea. From December to June the prevailing winds are from the northeast, the temperature is agreeable, the nights cool, and the air is refreshed by occasional showers. The most agreeable months are March, April, May, and June. During July and August southwest winds are frequent and are accompanied by heavy rain-squalls. Hurricanes may occur at almost any time of the year. They may be expected at the changes of the monsoons and are most frequent in the months of October and

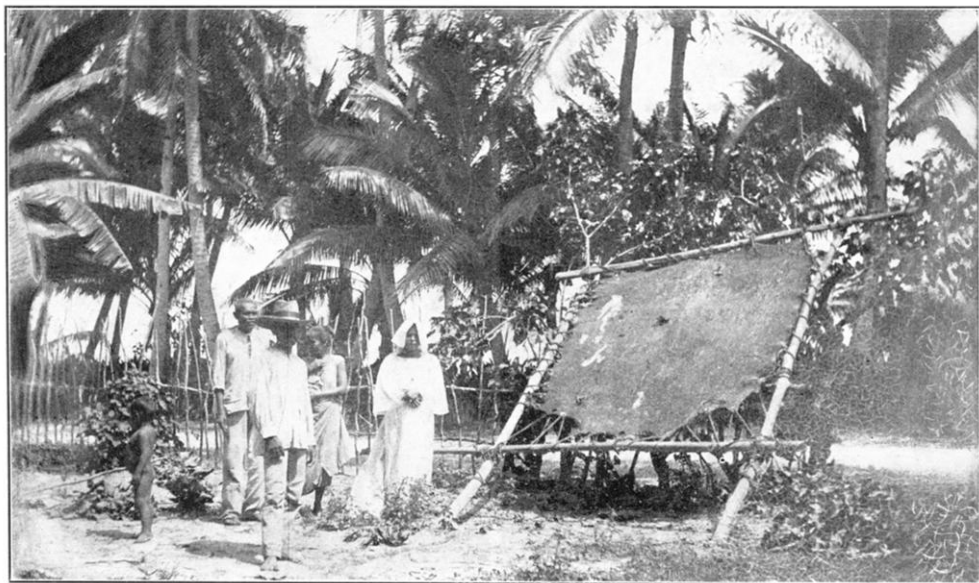
November. They are often of such violence as to blow down the greater part of the native houses, laying waste the maize and rice fields, uprooting or breaking off coconut trees, destroying the bread-fruit crop, tearing to shreds plantains and banana plants, and killing fowls and cattle. Vessels at anchor in the harbor are frequently swept from their moorings and cast upon the reef, as the letter-books of the Spanish governors of the island will show. Hurricanes are usually followed by scarcity of food. The natives, who very seldom have a reserve on hand, are obliged at such times to go to the forest for wild yams and nuts of *Cycas circinalis*.

Earthquakes are also frequent, but are not often violent. One of the most severe the island has known in historical times was that of 1849, which destroyed the church and the Government house in the village of Umata. Not long afterward a number of natives of the Caroline islands appeared at Guam, stating that their islands had been swept by enormous waves, and begging the governor for an asylum. The most recent occurred September 22, 1902, causing serious injury to the building used as the marine barracks, and killing several natives.

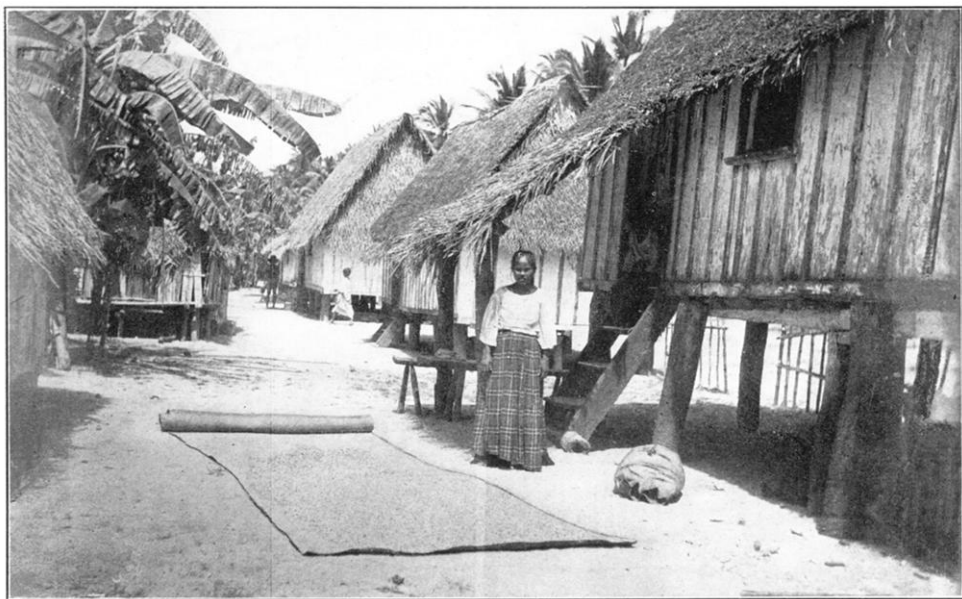
Vegetation.—The flora of Guam, though possessing a number of species not known from other localities, bears a general resemblance to that of many other volcanic, coral-fringed islands of the Pacific. In the forests are wild bread-fruit trees (*Artocarpus*) of great size; giant banyans and other species of *Ficus*; Leguminosæ with hard, mahogany-like wood; arboreous Apocynaceæ, Verbenaceæ, Hernandiaceæ, and Malvaceæ; several species of *Pandanus*; and a wealth of ferns growing on the ground, climbing tree-trunks, or perched upon the branches like great birds-nests. In rocky places grow an interesting rubiaceous shrub or small tree, *Bikkia mariannensis*, with four-parted, funnel-shaped flowers; the ramie plant, *Boehmeria nivea*, var. *tenacissima*, growing in its wild state as a branching shrub or small tree, and *Cycas circinalis*, which resembles a tree-fern with its glossy, plume-like fronds.

In the sabanas, or places devoid of forest growth, occur vast stretches of a coarse grass called *neti*, patches of brake-like *Gleichenia*, and scattered ironwood trees (*Casuarina equisetifolia*). The ironwood grows also along the sandy beaches, especially on the east coast of the island, where the trees present a twisted and battered appearance from the constant trade-winds and the effects of the frequent hurricanes. Other shore trees are the widely spread *Hibiscus tiliaceus*, *Thespesia populnea*, *Terminalia catappa*, *Heritiera littoralis*, and *Barringtonia speciosa*. In the rich valleys the betel-palm, *Areca catechu*, is plentiful; and near the banks of streams grow a tree-fern (*Alsophila*) and the giant *Angiopteris evecta*. Twining in the thickets are several species of Convolvulaceæ, Leguminosæ, wild yams (*Dioscorea aculeata*) with sharp, wiry, branching thorns, and a peculiar leafless, wiry parasite, *Cassytha filiformis*, belonging to the Lauraceæ. In the swamps are dense growths of reeds and marsh-ferns (*Chrysodium aureum*) among which twines the delicate little *Lygodium scandens*. The vegetation along the beach is like that of most tropical shores, made up of goats-foot, convolvulus (*Ipomoea biloba*), sea-beans (*Canavalia obtusifolia*), and the shrubby *Scævola kænigii* and *Tournefortia argentea*. On the rocky islets, besides the *Cycas* and *Bikkia* mentioned above, grow a fine hardwood tree (*Ochrocarpus obovalis*), called *chopag* by the natives, and the widely spread *Xylocarpus granatus*. In the mangrove swamps are tangled growths of *Rhizophora mucronata*, *Bruguiera gymnorhiza*, and crimson-flowered *Lumnitzera*.

It may be of interest to those unfamiliar with Pacific insular floras to note the absence of pines, cedars, willows, walnuts, birches, Ranunculaceæ, Rosaceæ, Caprifoliaceæ, and Cactaceæ; there are few Compositæ and but one or two crucifers. It is probable that none of the palms are indigenous, with perhaps the exception of a wild rattan (*Calamus*) of no economic value. Among plants conspicuous for their absence are the Polynesian chestnut (*Inocarpus edulis*), the paper mulberry (*Broussonetia*



1.—TANNING AN OX-HIDE IN GUAM



2.—DRYING MAIZE IN THE STREETS OF AGAÑA, GUAM

papyrifera), and the candle-nut (*Aleurites moluccana*), all of which are common on most islands of Polynesia.

Fauna.—Besides rats and mice the only mammals are a large fruit-eating bat, or flying-fox (*Pteropus*); a small insectivorous bat which during the day-time remains in caves; wild hogs; and a species of deer introduced into the island by Don Mariano Tobias, who was governor from 1771 to 1774. The deer are now so abundant as to cause serious damage to the corn-crops and young coconuts. Goats are also to be found on several of the outlying islets. Cattle and carabaos, or water-buffalo, have been introduced and are used both for food and as beasts of burden.

Among the birds are several species of fruit-doves, a pretty little fan-tailed fly-catcher, scarlet-and-black honey-eaters with long, slender curved beaks, black starlings, a crow, a tawny-and-blue kingfisher (*Halcyon*) which preys on lizards and insects instead of fish, the swift that makes edible nests, a little fly-catcher named for De Freycinet (*Myiagra freycineti*), a small *Zosterops* with olive-green and yellow plumage, two rails (*Hypotænidia* and *Poliolimnas*) and a gallinule (*Gallinula chloropus*) which frequent the swamps and taro-patches; and along the shores a heron, a bittern, two curlews, the Pacific godwit, several sandpipers, plover, the wandering tattler, sanderling, snipe, and turn-stones. The only bird of prey known to occur is the widely spread short-eared owl (*Asio accipitrinus*), called *momo* by the natives. The most beautiful of the birds are the fruit-doves, one of which (*Ptilinopus roseicapillus*) belongs to a group widely spread in the Pacific, having rosy crowns, green backs, and yellow, purple, and orange plumage on the under surface. *Acrocephalus lusciniæ* is a reed-warbler, a modest bird bearing a general resemblance to our catbird and having an exquisite song.

Among introduced species are the beautiful little Chinese partridge (*Excalfactoria sinensis*), brought to the island in recent years by Don Pedro Duarte, and *Turtur dussumieri*, the Philippine turtle-dove. *Phlegoenas xanthonura* is a fruit-eating dove,

interesting from the great dissimilarity between the adult male and the female. The former, called *apaka* by the natives, is considerably the larger and has a white head. The latter, called *paloman kunau*, is of an almost uniform chocolate color. The natives think them to be different birds which live together.

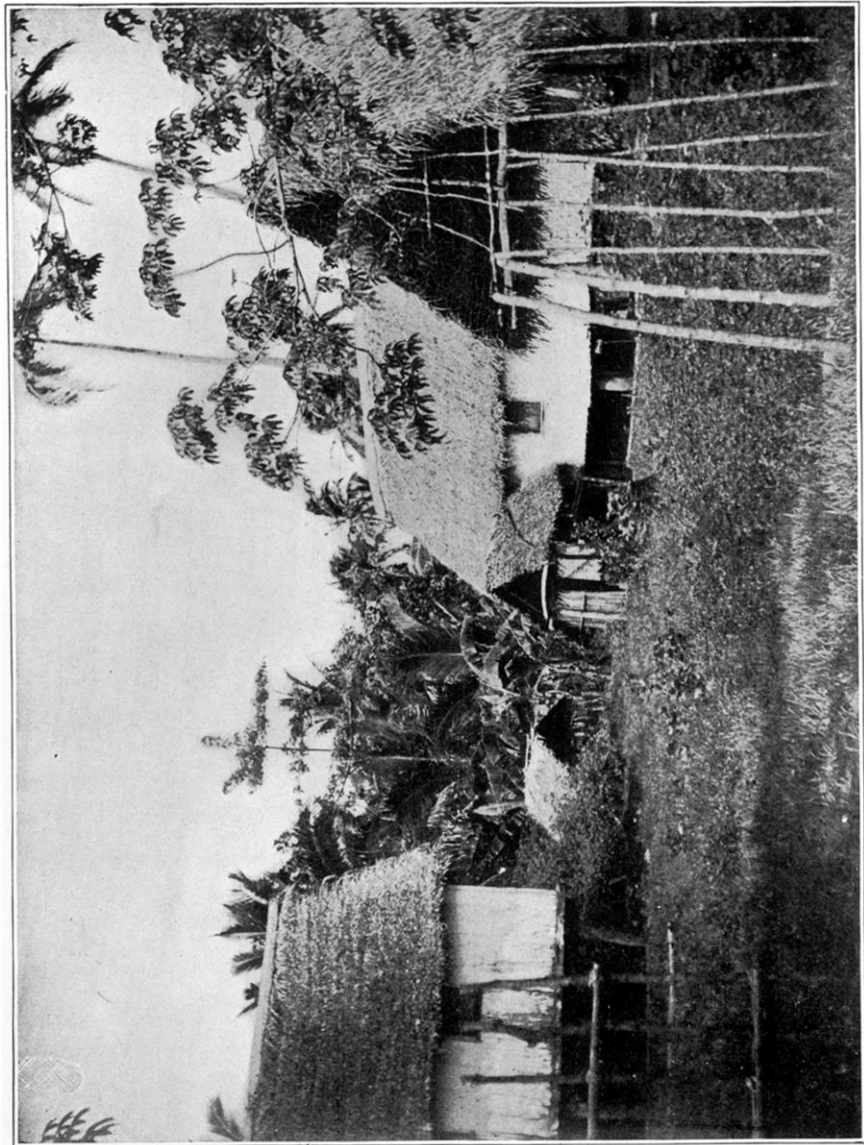
The best game bird is a wild duck, *Anas oustaleti*, a species peculiar to the island but closely allied to *Anas supercilialis* which occurs in Samoa. Curlew, gallinules, plover, and doves are also hunted by the natives for food.¹

Among the reptiles are a large lizard (*Varannus*) which robs birds-nests and eats young chickens and pigeons, a blue-tailed skink, one or two geckos which frequent the houses of the natives and run about the ceilings and walls catching insects, and a small snake (*Typhlops*) belonging to the Epanodonta, very much in general appearance like an earth worm, but with a hard glossy skin.

Several species of land-crabs occur, including the curious *Birgus latro*, or "robber-crab," kept by the natives in captivity and fattened on coconuts for the table. In the streams there are shrimps and on the shores spiny lobsters; both of these are highly esteemed for food. A full list of the fishes and birds is given in the report of the Director of the Bernice Pauahi Bishop Museum of Hawaii for 1900, the result of the work of Mr Alvin Seale, who collected on the island in 1900.

Discovery.—The island of Guam was discovered by Magellan on March 6, 1521, after a passage of three months and twenty days from the strait which bears his name. Among the accounts written of his expedition, that of Antonio Pigafetta, of Vicenza, who accompanied him, is full of valuable and interesting details. Pigafetta tells of the terrible suffering of his companions on their way across the waters of the unexplored ocean: how their food failed, until they had only crumbling biscuit full of

¹ See "Birds of the Marianne Islands and their Vernacular Names," *The Osprey*, March-April, 1902.



VIEW NEAR PITI, GUAM, SHOWING FRAMEWORK OF HUT LASHED TOGETHER WITH PANDANUS LEAVES

maggots to eat, all foul from the excrement of rats; how they were forced to eat the rats themselves, which brought a price of half-a-crown each, and moreover "enough of them could not be got"; how they even resorted to sawdust of wood, and the ox-hides used as chafing gear in the rigging under the main yard, all stiffened and hardened by sun, rain, and wind, soaking them for several days in the sea, and then putting them "a little on the embers." The water they had to drink was yellow and stinking, and the gums of nearly all were swollen with scurvy, and nineteen died, and twenty-five or thirty others fell ill "of divers sicknesses, both in the arms and legs and other places, in such manner that very few remained healthy."

Two islands were sighted, but only birds and trees were found upon them and no supplies could be obtained. These they called the *Unfortunate islands*. Finally three other islands were sighted, covered with rich vegetation and inhabited by many people, who came out to meet them in wonderful canoes, which seemed to fairly fly over the water. The sails were triangular-shaped mats woven of pandanus-leaves and were supported on a yard after the manner of lateen sails. The mast was amidships. Instead of going about in tacking they simply shifted the sheet of the sail from one end of the canoe to the other, so that which had been the bow became the stern, and the stern became the bow. Parallel to the fore-and-aft line there was an outrigger or log, rigidly connected with the hull by cross-pieces and resting upon the surface of the water. This served, both by its weight and buoyancy, to keep the narrow craft from capsizing, and was kept always on the windward side by shifting the sheet as described above. All of the boats were painted, some black and others red. They had paddles of the form of hearth shovels, which could be used for steering or propelling the boats.¹

¹ "Hanno il timone simile ad una pala da fornai, cioè una pertica con una tavola in cima; e doppio essendo questo timone o remo, fanno a piacer loro di poppa prora." — Pigafetta, *Primo Viaggio intorno al Globo Terracqueo*, Milano, MDCCC, p. 53.

The ships came to anchor near a village on the southernmost island, and the natives brought them refreshment of fruits. The sails were furled and preparations were made to land, when it was discovered that the skiff which rode astern of the flag-ship was missing. Suspecting that the natives had stolen it, the Captain General went ashore with forty armed men, burned forty or fifty houses and many boats, and killed seven or eight native men and women. He then returned to the ship with his skiff and immediately set sail, continuing his course to the westward.

"Before we went ashore," says Pigafetta, "some of our people who were sick said to us that if we should kill any of them, whether man or woman, that we should bring on board their entrails, being persuaded that with the latter they would be cured.

"When we wounded some of those islanders with arrows, which entered their bodies, they tried to draw forth the arrow now in one way and now in another, in the meantime regarding it with great astonishment, and thus did they who were wounded in the breast, and they died of it, which did not fail to cause us compassion.

"Seeing us taking our departure then, they followed us with more than a hundred boats, for more than a league. They approached our ships, showing us fish and pretending to wish to give them to us; but when they were near they cast stones at us and fled. We passed under full sail among their boats, which with greatest dexterity escaped us. We saw among them some women who were weeping and tearing their hair, surely for their husbands killed by us."

Aboriginal Inhabitants. — The natives were described by the early navigators and missionaries as people of the stature of Europeans. They were lighter in color than the Filipinos, and the women and children were fairer than the men. At the time of the discovery the men wore their hair loose or coiled in a knot on top of the head. Later they are described as shaving the



1.—THE VILLAGE OF ASAN, GUAM, SHOWING TYPICAL HOUSES, AND COW HARNESSSED TO VEHICLE



2.—LANDING PLACE AT PITI; COCONUT TREES NOTCHED FOR GATHERING TUBA

head, with the exception of a crest about a finger long, which they left on the crown. Some of them were bearded. Pigafetta says that they were well formed, and in the report of the early missionaries they were said to be more corpulent and robust than Europeans, but with a tendency to obesity. They were remarkably free from disease and physical defects, and lived to a great age. Among those baptized the first year by the missionaries there were more than one hundred and twenty said to be past the age of a hundred years. Their hair was naturally jet black, and in early times was worn so long by the women as to touch the ground. The men wore no clothing, and the only covering of the women was a small apron-like garment made of the inner bark of a tree. The women were handsome, and more delicate in figure than the men. They did not work in the fields, but occupied themselves in weaving baskets, mats, and hats of Pandanus leaves, and doing other necessary work about the house.¹

In their general appearance, language, and customs the people of Guam bore a resemblance to the Tagalos and Visayans of the Philippine islands. The vocabulary, however, was distinct, with the exception of a few words of Malayan affinity widely spread over the Pacific (such, for instance, as the names for sky, fowl, fire, and a few others). Their grammatical forms were very different from those of the Polynesians, tenses being expressed by the reduplication of syllables and the insertion and prefixing of particles to the root of the verb.

Before marriage it was customary for young men to live in concubinage with girls, whom they purchased from their parents by presents. This did not injure a girl's prospect for marriage afterward. Frequently a number of young men and young girls

¹ Le donne son belle, di figura svelta, piu delicate e bianche degli uomini, con capegli nerissimi sciolti e lunghi fino a terra. Vanno pur esse ignude, se non che coprono le parti vergognose con una corteccia stretta e sottile quanto la carta, tratta dalla scorza interna che sta fra la corteccia il legno della palma. Esse non lavarono alla campagna, ma stanno in casa tessendo stuoie, ceste di palma, e altri simili lavori facendo necessarj alla famiglia.—Pigafetta, p. 51.

would live together in a large public house. After marriage a husband contented himself with one wife, and a wife with one husband at a time. Divorces were frequent, the children and household property always going with the wife. The most frequent cause of divorce was jealousy. If a woman discovered her husband to be unfaithful, she called together the other women of her village, who armed themselves with spears and proceeded to the house of the offender. They would then destroy any growing crops he might own and menace him with the spears until he was forced to flee from the house. Then they took possession of everything they could find and sometimes even destroyed the house itself. When a wife was unfaithful, the husband had a right to chastise her paramour, but she went free from punishment.

Caste distinctions were recognized and very strictly observed. The chiefs, called *chamorris*, owned vast plantations and coconut groves, which were handed down generation after generation to the heirs. A chief's rightful successor was his brother or his nephew, who, on coming into possession of the family estate, changed his name to that of the chief ancestor of the family.

The people were naturally superstitious. They venerated the bones of their ancestors, keeping the skulls in their houses in small baskets, and practising certain incantations before them when it was desired to attain certain objects. The spirits of the dead were called *aniti*, and were supposed to dwell in the forests, often visiting the villages, causing bad dreams and having especial sway over the fisheries. People dying a violent death went to a place called *Zazarraguan*, or the house of Chayfi, where they suffered torture from fire and incessant blows. Those dying natural death went to a subterranean paradise where there were groves of coconuts, plantations of bananas, sugar-cane, and other fruits in abundance. Certain men called *makahna* resembled the *kahunas* of the Hawaiians. They were supposed to have power over the health of the natives, could cause rain, and bring luck to the

fishermen. As among many Indian, Malayan, and Polynesian peoples, they were very careful not to spit near the house of another, undoubtedly through fear of sorcery, should an enemy possess himself of the spittle.

Violent grief was shown on the death of a friend or relative, the people wailing and singing dirges expressive of their sorrow and despair, and recounting the noble qualities of the dead. In the case of a *chamorri's* death the wailing was prolonged for several days. Small mounds were raised over the grave and were decorated with flowers, palm-leaves, canoe-paddles if the deceased was a fisherman, and spears if he was a warrior. The body was sometimes anointed with fragrant oil and taken in procession from house to house, as though to allow the spirit an opportunity of choosing an abiding place among the homes of its kindred.

On occasions of festivity the men and the women would collect in groups each by themselves, and, forming semicircles, sing and chant their legends and fables. Sometimes these songs would be in three-part harmony, "treble, contralto, and falsetto." The songs were accompanied by appropriate gestures and movements of the body, the women using certain rattles and castanets made of shells. On these occasions the women adorned their foreheads with wreaths of flowers like jasmines, and wore belts of shells and bands from which hung disks of turtle-shell, which were much prized among them. They wore skirts of fringe-like roots, which the early missionaries declared were "rather like cages than garments."

Though called *Ladrones* ("Thieves"), they were so honest that their houses were left open and without protection, and very seldom was anything found missing. They were very hospitable and kind, as all the early accounts testify. It was not until they were given just cause that their attitude toward the Spanish changed, whereupon the latter declared that they had been mistaken in attributing virtues to them.

They declared that the foreigners brought to the island rats,

flies, mosquitoes, and strange diseases. They lived with little restraint, matters of importance to the villages or to the general public being decided by assemblies of their chiefs and old men; but these had little authority, and a native did pretty much what he pleased unless prevented from doing so by some one stronger than himself.

Their arms were wooden spears pointed with bones, and slings with which they threw oval-shaped stones with remarkable force and accuracy, "as far," says one observer, "as an arquebus can shoot." From their earliest youth they were accustomed to practise with these weapons and often had contests of spear-throwing, fencing, and throwing at marks. Often the stone was hurled with such swiftness that it would become embedded in the trunk of a tree. The women went to sea with their husbands for sport. They were fine swimmers, and as they threw themselves into the water and came bounding from wave to wave, they reminded Pigafetta of dolphins.

Their houses were well made, thatched with palm-leaves, and raised on wooden posts or on pillars of stone.¹ They were divided into several rooms by partitions of mats. Their beds were mats woven from Pandanus leaves divided into strips of great fineness. Their boats were kept under shelter, large sheds being constructed for them near the sea, the stone or masonry pillars of which may still be seen. These stone pillars are held in awe by the present natives of the island, who think it unlucky to disturb them or even to linger near them.

Food.—The food of the aborigines consisted of fish, fowls, rice, bread-fruit, taro, yams, and bananas (Pigafetta calls them "figs a palm long"), coconuts, and nuts of *Cycas circinalis*, the poisonous properties of which they removed by soaking and repeatedly changing the water, after which they were cooked. For relishes they ate certain seaweeds, the nuts of *Terminalia*

¹ "Fundados sobre fuertes pilares de piedra." — Narrative of Gaspar and Grijalva, who visited Guam with Legaspi in 1565.

catappa and a species of *Pandanus*. *Pandanus* drupes, which are an important food-staple in some Pacific islands, were not a part of their domestic economy; and, although they had pigs at an early date, it is probable that these were introduced after the discovery, as some of the early navigators declare that the natives could not be induced to eat flesh. The creamy juice expressed from the meat of ripe coconuts entered into the composition of several of their dishes. They were ignorant of the manufacture of *tuba* from the sap of the coconut, and had no intoxicating beverages before the arrival of the Spaniards. As was nearly the universal custom throughout the tropical Pacific, they cooked by means of stones which they heated in a hole in the ground, making alternate layers of food, leaves, and heated stones, somewhat after the manner of a New England clam-bake.

Narcotics.—The kava-pepper (*Piper methysticum*) was unknown to them; but its place may be said to have been taken by the betel (*Piper betle*), the leaves of which they chewed wrapped around a fragment of the nut of *Areca catechu*, with the addition of a pinch of lime. This habit is still universal among the natives of Guam. The betel, thus prepared, has an agreeable aromatic pungency, not unlike that of nutmeg. It imparts a fragrance to the breath, which is not disagreeable, but it discolors the teeth and causes them to crumble away, while the constant expectoration of saliva, red as blood, is a disagreeable habit.

Cultivated Plants.—The principal plants cultivated by the natives before the discovery were the bread-fruit—a sterile form of *Artocarpus communis*, which is propagated by cuttings, or sprouts, from the roots; the *dugdug*, or fertile form of the same species, which also grew wild upon the island, yielding an edible, chest-nut-like seed, logs from which they made their largest canoes, bark for their aprons or loin-cloths, and gum which served as a medium for mixing their paints and as a resin for paying the seams of their canoes; the betel palm (*Areca catechu*) and the betel pepper (*Piper betle*), which were undoubtedly brought to the island

in prehistoric times, as also were rice, sugar-cane, and the species of *Pandanus* called *aggak*, from the leaves of which they made their mats, baskets, hats, and boat-sails. Of this plant only one sex occurs on the island, and it must consequently be propagated by cuttings. Coconuts were also, in all probability, brought hither, as were several varieties of yams (*Dioscorea*), separated by them into two groups which, according to the shape of the leaf, they call *nika* and *dago*. A third species, *Dioscorea aculeata*, called *gado*, which now grows wild in thickets, is characterized by sharp, wiry, branching thorns near the ground, which serve to protect its starchy tubers from wild hogs. Several varieties of taro were cultivated, both in swampy places and on dry hill-sides. Varieties of *Colocasia antiquorum* were called *suní*; those of *Alocasia indica* and allied forms were called *piga*. Among the less important plants were the Polynesian arrowroot (*Tacca pinnatifida*), called *gabgab*; turmeric (*Curcuma longa*), called *mañgo*; wild ginger (*Zingiber zerumbet*), or *asñgod halom-tano*; and a species of red-pepper (*Capsicum annuum*), called *doni*. There were no edible oranges, mangoes, mangosteens, nor loquats. A fruit much relished by the fruit-eating pigeons was the *piod* (*Ximenia americana*), which resembles a small yellow plum with a slight flavor of bitter-almond.

Agricultural and other Useful Arts.—For growing taro little art is required. Yams require more care; while bananas, bread-fruit, and the textile *Pandanus*, propagated by cuttings or sprouts, have to be severed from the parent stock, stuck into the ground, and occasionally watered. For the cultivation of rice—the only cereal of the aborigines—far greater skill is required, on account of the necessary preparation of the fields and the construction of irrigating ditches. Rice was the principal staple furnished to vessels in considerable quantity. Oliver van Noort, who visited the island in 1600, mentions it in his narrative; and the Nassau fleet in 1625 bought it in bales containing 70 to 80 pounds each. At this time it was cultivated in many places on the island, which

indicates no little industry and enterprise on the part of the natives. I dwell on this point, because the aborigines of Guam have been described as very indolent and of the lowest order of civilization, ignorant even of the art of making fire. Surely the people who constructed such marvelous "flying praos," who dwelt in commodious and well-built houses, and who carried on the art of agriculture to the extent indicated by the narratives of the early expeditions of the Dutch, cannot be classified as abject savages, even though their bodies were covered by very scant clothing. If encounters took place between them and the crews of visiting ships,—and these crews, fresh from pillaging the coast of South America and accustomed to deeds of violence and murder, were in all probability far from gentle in their treatment of the natives,—they were designated as miserable infidels, to "slay" whom was a legitimate pastime; while, if a European was killed by one of them, without investigating the cause, he was declared to have been murdered, and his death was avenged by the burning of villages, boats, and boat-houses, and by killing men, women, and children.¹ They were branded with the name "Ladrones" for stealing a boat and some bits of iron; yet the Spaniards did not hesitate to steal human beings to serve as slaves at their pumps.²

Arrival of Jesuit Missionaries.—For nearly a century and a half after the discovery, no attempt was made to colonize the island. Spanish galleons, on their annual trips from New Spain to the Philippines, stopped regularly at Guam for fresh water and provisions. On one of these a Jesuit priest, Padre Diego Luis de Sanvitores, was passenger. His heart was moved with pity for the natives living in spiritual darkness in this earthly paradise, and when he reached Manila he begged that he might be sent to them as a missionary. His request was refused, and it was not until he succeeded in getting a direct order from the king, Philip

¹ See narrative of the expedition under Miguel Lopez Legaspi, which visited Guam in 1565.

² Burney, *Narrative of the Loaysa Expedition*, 1526, vol. I, p. 217.

AM. ANTH. N. S., 4.—46.

IV, that his wish was realized. A ship was built at Cavite, and Padre Diego was sent, together with several companions, to carry the faith to the Ladrones.

He arrived at Agaña on March 3, 1668, the ship having first proceeded to Acapulco, Mexico, as was the custom, owing to the head winds and the currents. Sanvitores was full of zeal and worked with phenomenal success among the natives. They received him with great kindness, giving him a dwelling-place and building for him a church at Agaña. Letters written by him to his superiors are full of interesting information concerning the natives. He tells of their great regard for caste distinctions, their veneration for the bones of their dead, their practice of sorcery, and he regrets their love of worldly pleasures, their disinclination for serious occupations, and complains that their history is "obscured by a thousand fables."

After a time trouble arose between the missionaries and the natives. At first the chiefs insisted that the benefits of baptism should not be extended to the common people; then they began to doubt its efficiency, and many who had been baptized reverted to their former beliefs and practices. They resented the efforts of the missionaries to change their marriage customs, the destruction of the sacred bones of their fathers, and the forcible detention of children whom the missionaries had taken to educate. Finally, after four years of unceasing labor among them, Padre Sanvitores was killed while baptizing a child against the will of its father.

Active measures were now taken to reduce the natives. The queen of Spain, Maria Ana of Austria, widow of Philip IV, became interested in their conversion and founded a college for the education of native youth, which she endowed with an annual income of three thousand pesos. In honor of her the group was named "Las Islas Marianas." The income from the fund bestowed by the queen continued until the seizure of the island of Guam by the United States.

The Jesuits continued in the island for a century. At their expulsion, in 1769, in conformity with the edict of Carlos III, their place was taken by Recollet friars of the order of San Agostino. During their stay the Jesuits not only introduced many useful plants and fruits from Mexico and from other countries, but they taught the natives many useful arts and habits of industry, established extensive plantations, and brought to the island cattle, horses, mules, donkeys, goats, and carabaos, or water buffalo. The youths under their care were instructed in the elements of learning and in the Christian doctrine, and were trained to serve as acolytes. They instructed them also in music. The inventory of their effects, taken at the time their property was seized by order of the king, is still in Guam. Among the items are: "seven violins with their bows, three sweet flutes, two harps, and one viol." The inventory also includes a list of blacksmith's tools, axes, planes, chisels, saws, and appliances for tanning leather, together with a good supply of agricultural implements; and the list of live-stock and articles found on their farms showed that the latter were in a flourishing condition.

Plants Introduced by the Missionaries.—The principal plants introduced by the missionaries were maize or Indian corn, tobacco, oranges, lemons, limes, pineapples, cashew-nuts, or *marañones*, peanuts, egg-plants, tomatoes, and several species of Anona, besides a number of leguminous vegetables and garden-herbs.

With maize, the chief article of cultivation, came the Mexican *metatl* and *mano* for making tortillas. Tobacco leaves were used for paying the natives for their work. Most of the sweet potatoes grown were sold to ships, the natives contenting themselves with yams and taro or bread-fruit. Among the medicinal plants brought from Mexico was *Cassia alata*, which is still called "*acapulco*"; and *Pithecolobium dulce*, called *kamachilis*, was brought for the sake of its bark, which is used in tanning.

Modern Agriculture.—Maize is cultivated in patches varying

from one acre to ten acres. It is planted on the highlands at the beginning of the rainy season. A second crop is obtained from the lowlands in the dry season. It must be shelled as soon as gathered, carefully dried to prevent molding, and stored in large earthen jars (brought from Manila, Japan, or China) for protection against weevils. In the lowlands with deep soil, the fields may be plowed. In plowing bullocks or carabaos are used, the latter preferably in wet places; the plow is of wood, with a single handle, and tipped with iron, usually forged by the village blacksmith from an old musket barrel.

Rice is cultivated very much as in the Philippines. The crop is frequently a failure owing to drought or a blasting hurricane; and even in good seasons the crop is insufficient for the consumption of the inhabitants. It is one of the food staples of the island, and is now imported from Japan and the United States.

Taro is cultivated both in wet and in dry ground. It is much eaten by the natives, as also are several species of yams (*Dioscorea*). There are at least four varieties of sweet potatoes. It is interesting to note that the vernacular name for sweet potato—*camote*—is of American origin, and is still commonly used among the Spanish-speaking people of our extreme Southwest.

Tobacco is planted by nearly every family. It must be carefully weeded and kept free from insect-larvæ, the most destructive of which is that of a sphinx moth. It is never cured nor allowed to ferment, but is simply hung under shelter and left to dry. The natives prefer their tobacco to all other kinds. They will not smoke foreign tobacco unless their own gives out. It is usually smoked in the form of loosely rolled cigars, made without paste, and wrapped with agave or pineapple fiber.

Several kinds of Leguminosæ are cultivated both for the sake of their green pods and for their ripe seeds. One of the best is *Psophocarpus tetragonolobus*, the pods of which, eaten green and tender, have four longitudinal ruffle-like wings. Peanuts grow

readily, in places lining the road from Agaña to the port. Mandioc and arrowroot (*Maranta arundinacea*) are cultivated, but not on an extensive scale; and turmeric and tacca, though growing wild, are sometimes planted.

The natives have become essentially an agricultural and pastoral people. Some of the changes brought about by Spanish occupancy are shown in the accompanying illustrations (plates XXVII-XXX). Navigation is scarcely practised by them. The wonderful flying praos have been replaced by small canoes, such as that shown in plate XXVII, which is used by the natives only for fishing. There are scarcely more than a dozen native boats in the whole island. For years what traffic was carried on between the islands of the group was by means of large canoes from the Caroline islands.

Another figure shows the manner in which corn is spread out to dry in the streets upon mats of Pandanus leaves. The cast-net shown in the figure of the fisherman is made of thread twisted by hand from pineapple fiber; and the hide in process of tanning has been treated with an infusion of the bark of *Pithecolobium dulce*, which, like the source of the leather itself, is an intrusion from America.

With the exception of a few families living in rancherías, the natives inhabit villages and go to their ranchos, or country places, for the purpose of feeding and watering their stock or for cultivating their fields. The town houses are well constructed; they are raised from the ground on substantial, durable posts, or built of masonry with a basement or "bodega," which is used as a store-room, taking up the ground floor. Some of them are surrounded by balconies enclosed by shutters or by windows with translucent bivalve shells for panes. The roofs are either of thatch or tile, the best thatch being that made of the leaflets of nipa palm. Many of the houses are provided with gardens, in which grow perennial egg-plants, red-peppers, bananas, plantains, various kinds of beans, squashes, and ornamental and useful shrubs and trees,

including lemons, limes, **pomegranates**, sour-sops, and sugar-apples (*Anona squamosa*). Frequently under the eaves, so as to receive the drippings from the roofs, are planted rows of bright-leaved Codiaëums, cut-leaved Panax and other Araliaceæ, and dark purple Eranthemums; and among the fragrant-flowered species are the *mil leguas* (*Pergularia odoratissima*), the Egyptian henna (*Lawsonia alba*),—a great bush covered with flowers which bear a general resemblance to and have the odor of mignonette, — and the Ilang-ilang tree (*Canaga odorata*).

Ranchos may be constructed for the use of one or two persons or for a whole family. Many of them are intended only for temporary occupancy, the adjoining ground being allowed to lie fallow after crops have been raised on it for four or five years in succession. The usual form of a small rancho is that of a shed, with walls of coconut matting or woven reeds and a roof of coconut thatch. Half of the hut is taken up by a split-bamboo platform, raised about two feet from the ground. This is the family bed. Beneath it are penned up each night the youngest broods of chickens with their mothers, to protect them from rats, cats, and lizards. The larger fowls fly to the spreading limbs of a neighboring tree (the site for a rancho is always selected near a suitable roosting-tree), or upon the ridge of the roof, or perhaps on some convenient perch in the hut itself, where there are always four or five setting hens in baskets hung on the posts. Sometimes the whole family remains on the rancho during the week, returning to the town on Saturday evening, when a procession of ox-carts a mile long may always be seen en route to the capital, so that their owners may be ready for early mass the next morning.

There are few masters and few servants in Guam. As a rule the rancho is not too extensive to be cultivated by the family, all of whom, even the little children, lend a hand. Often the owners of neighboring ranchos work together in communal fashion, one day on A's corn, the next on B's, and so on, laugh-

ing, singing, and skylarking at their work, and stopping whenever they feel like it to take a drink of *tuba* from a neighboring coconut tree. Each does his share without constraint, nor will one indulge so freely in *tuba* as to incapacitate himself for work; for experience has taught the necessity of temperance, and every one must do his share if the services are to be reciprocal. By the time the young men have finished their round, the weeds are quite high enough once more in A's corn to require attention again. In the evening they separate, each going to his own rancho to feed his bullock, pigs, and chickens; and after a good supper they lie down for the night on a Pandanus mat spread over the elastic platform of split bamboo.

If wealth consists in the ability to gratify one's wants, the people of Guam may be called rich; and were it not for the frequent occurrence of hurricanes, life on the island would be almost ideal. None of the natives depends for his livelihood on either commerce or a trade. There are men who can make shoes, tan leather, and cut stone for building purposes; but such a thing as a shoemaker, tanner, or mason who supports his family by his trade is unknown. In the midst of building a stone wall, the native who has consented to help do the work will probably say: "Excuse me, Señor, but I must go to my rancho for three or four days; the weeds are getting ahead of my corn." And when one wishes to get some lime, the native to whom he goes for it may say: "After I have finished gathering my coconuts for copra I will get my boys to cut wood and make a kiln. Never fear, Señor, you shall have the lime within six weeks."

The result of this condition of society is, that when a father dies the wife and children are not left destitute, as would be the case if they depended on the results of his handiwork alone. The crops continue to ripen and are gathered in due time by the family; the weeds and worms are kept out of the tobacco; the coffee-bushes bend each year under their weight of berries; and the coconuts, as usual, yield their annual dividend. Indeed, in

most cases the annual income in provisions is amply sufficient to keep the family supplied with its simple clothing, some flour and rice brought by the traders from Japan or America to exchange for copra, and perhaps a few delicacies, a ribbon or two, and a new picture of the patron saint to place in the little alcove of the side room, where the light is always kept burning.

While in Guam I knew of only one person on the island dependent upon charity, and she was an old blind woman without children or near relatives. Even blindness does not make beggars of the natives. On one occasion, while crossing the island to report on the suitability of a certain bay as a landing-place for the proposed telegraph cable, I visited a house in which a man and his wife were both blind. He was engaged in twisting pineapple fiber into thread for cast-nets. The surrounding farm was in a flourishing condition: here a field of corn; there a patch of tobacco; a little farther away a grove of young coconuts, set out evenly in rows; near the house a thicket of coffee-bushes red with berries; about the door betelnuts drying in the sun; at the edge of the forest a cow, very much like an Alderney, tethered to a tree to keep her out of a neighboring patch of sweet potatoes; and in a newly cleared spot, where the stumps of trees were still standing, I saw a rich growth of taro and some yam vines twining up a circle of poles inclined against a tree.

A fine strapping youth came in to prepare dinner. He was the son of the old people and had been born before they were stricken with the disease which caused their blindness. It was he who planted the garden, who cleared the forest, cared for the cow, the pigs and chickens, and collected the betelnuts. He climbed a coconut-tree near the house and brought in a bamboo joint full of tuba, delicious as cider just beginning to turn sharp, which, after putting across the top some leaves to strain it, he offered us with the manner of a Spanish caballero. The next day, on my return from the opposite shore of the

island, he saddled the sleek little cow and insisted on my riding her back to the city, he and the little calf running along by my side as the cow trotted over the good roads, and wading through the deep mud, as our way led across marshy places overarched by great bamboos. On all the farms we passed the natives were planting coconuts. There were fields of corn, sweet potatoes, and tobacco. The young tobacco plants, recently transplanted, were each sheltered from the sun by a section of coconut leaf, stuck into the ground at an angle. Everybody seemed contented and all had a pleasant greeting for the stranger. Some of the shy little children brought out by their parents to see us took my hand to kiss it, as is the custom in the island on the occasion of a visit from a dignitary of the church or state, or the head of a family. It seemed to me that I had discovered Arcadia; and when I thought of a letter I had received from a friend asking whether I believed it would be possible to *civilize* the natives, I felt like exclaiming: "God forbid!"



1.—MODERN OUTRIGGER CANOE OF GUAM



2.—GUAM FISHERMAN WITH CAST-NET OF PINEAPPLE FIBER